



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D119-646-114
Job Sheet 129386



Part No: D119-646-114

Job Qty: 1 ea

Part Name: AW119 Skidtube with Wearplates & Wearpads, Float Compatible - RH



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 10/31/17

Created By: Mario Poulin

Type: Stock

Description:

Note: DWG REV D IPP RevA: New issue DD verified by:EC IPP REV:B 12.11.05 raise to chg002 (ECN 12-675) DD verf:JLM IPP REV:C 13.03.20 raise to chg003 (ECN 13-534) DD verf:JLM IPP REV:D 14.11.25 chg004 (ECN 14-628) DD verf:JLM

Ship Via:

Bill of Materials

Part/Part Name	Part Note	Serial No	Quantity	Location
D119-646-114 AW119 Skidtube with Wearplates & Wearpads, Float Compatible - RH	DWG REV D IPP RevA: New issue DD verified by:EC IPP REV:B 12.11.05 raise to chg002 (ECN 12-675) DD verf:JLM IPP REV:C 13.03.20 raise to chg003 (ECN 13-534) DD verf:JLM IPP REV:D 14.11.25 chg004 (ECN 14- 628) DD verf:JLM		0.000	
AN3C45A Bolt			0.000	
AN3C50A Bolt			0.000	
AN4C6A Bolt			0.000	
D119-646-143 AW119 Repl. Skidtube with Wearplates & Wearpads, Float Comp. - Fits LH or RH	DWG IIN-D119-646 REV D, D3905-043 REV E SHEETS 3,5,6, 8-14 IPP RevA: New issue DD verified by:EC IPP REVb 12.11.05 (DEOD3905-B-1) (ecn 12-675) DD verf:JLM IPP REV:C 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:D 15.01.19 AS PER ECN-14-628 DD verf:JLM IPP REV:E 16.11.02 chg as per D3905 revD(DEO) DD verf:JLM IPP REV:F 17.05.19 as per dwg D3905 rev.e DD verf:JFS		0.000	
D119-646-311 Ground Handling	DWG REV D IPP RevA: New issue DD verified by:EC		0.000	
D2652 Bushing	DWG REV A IPP Rev:B 02.06.13 Now machined in house. NG		0.000	
D2712 Set Screw	DWG REV B IPP: C 05.09.13 Reformat KJ/JLM		0.000	
D3407-041 Tow Ring	DWG REV E IPP Rev:A 05.10.14 New issue KJ/EC IPP Rev:B 08-09-09 revE as per dwg DD verified by:EC		0.000	
D3417-5 Washer	DWG REV F IPP Rev:A New issue 08-07-09 JLM Verified By:EC		0.000	
D3456-1 Washer	DWG REV A IPP A 05.10.03 New issue KJ/JLM		0.000	
D3672-3 Washer, Phenolic	DWG REV D IPP Rev:A New Issue 07-09-09 JLM Verified By:EC IPP Rev:B ECN 1056 07-11-13 DD		0.000	
D3672-7 Washer, Phenolic	DWG REV D IPP Rev:A New Issue 07-10-30 ECN 1056 07-11-13			
D3883-2 Saddle, Outside RH	DWG REV D IPP RevA: New issue DD verifie remove inside powdercoat DC			
D3884-2 Saddle, Inside RH	DWG REV C IPP RevA: New issue DD verifie remove inside powdercoat DC			
MS21043-3 Nut				
MS21043-4 Nut				
MS21250-05-006 Bolt				

Status: Stock

Part: **D119-646-114 B129386**

Created: 9/30/17 11:10 AM DART.MICHAUD-
FEBRILLE.VICTORIA



Serial No: **S000034**

Printed By: Goldston, Justin 10/2/17 10:44 AM

NAS1149C0332R		0.000
Washer		
NAS1149C0432R	DWG REV A	0.000
Washer		
NAS1149C0532R		0.000
Washer		

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/31/17	0.00	0.00	Start up container	
100	DC	1 pcs	10/31/17	0.00	0.00	DC	
120	QC	1 pcs	10/31/17	0.00	0.00	QC4	
130	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging3	
140	QC21-FG	1 Ea	10/31/17	0.00	0.00	QC21	

Part Op 100 - Photocopy bluefile & type labels per PPP D119-646-114
 Descriptions: 130 - Identify and pack for shipping as per PPP D119-646-114
 140 - CHG005

Job BOM

Part / Item	Component Name	Quantity	Operation	Special Comments
D119-646-114 B129386		24 Ea (24 ea)	90-Start up Operation	
DSI 9685-011	Crossbolt Spacer Installation	1 Ea (1 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D119-646-114 B129386	24	1	0	0
	DSI 9685-011	1	0	0	0

Part Specifications

Specifications could not be found.

Plex 10/1/17 1:15 PM Dart.Renwick.Jennifer

Work Order Summary

Thursday, September 28, 2017 9:04:35 AM

Page 1 of 2

Criteria : Work Order ID: 129386 Item ID: D119-646-114 Product Family SKIDTUBES
Work Order Start Dates 2/5/2015 to 2/5/2015 11:59:59 PM Work Order Required Dates 2/6/2015 to 2/6/2015
11:59:59 PM

Reference: ECN 14-628

Work Order Status Released

Work Order ID	129386	Required Qty	1.0000	Status Code	Released
Item ID	D119-646-114	Accepted Qty	0.0000	Scrap Qty	0.0000
Item Name	AW119 Skidtube with Wearplates & Wearpads, Float Compatible - RH				
Current Acct Value	\$5,306.050				
Start Date	2/5/2015	Required Date	2/6/2015	Completed Date	
Rework	** Actual **		** Acct. Value **	** Variance **	** Variance % **
Direct Costs	Total	Each	Each	Each	Each
Material	\$1,189.025	\$0.000	\$1,194.174	\$1,194.174	100.00%
Labor	\$1,279.250	\$0.000	\$1,120.211	\$1,120.211	100.00%
Outplant	\$286.688	\$0.000	\$0.000	\$0.000	0.00%
Variable Burden	\$21.553	\$0.000	\$21.553	\$21.553	100.00%
Fixed Burden	\$2,804.914	\$0.000	\$2,406.172	\$2,406.172	100.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
** Total **	\$5,581.429	\$0.000	\$4,742.111	\$4,742.111	

Item ID/Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
AN3C50A					
Bolt					
	3.0000		10/25/2016	3.0000	\$60.000
	-3.0000		10/21/2016	-3.0000	(\$65.149)
D119-646-114					
AW119 Skidtube with Wearplates & Wearpads, Float Compatible - RH	1.0000		2/5/2015	1.0000	\$4,742.111
Total Matl Amts:					\$4,736.962

Invoice Rout Seq ID	Invoice Vendor ID	VC-IMI001			
Invoice ID	Invoice Line Nbr	Invoice Date	Invoice Unit Price	Invoice Qty	Invoice Amt
IN502152	4	9/1/2015 3:16:15 PM	278.7028266	1.0000	\$278.703

Work Center HandFinish

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
LAUG01												
6/29/2015												
113			0.00	0.00	0.83	0.83	1.00	\$0.000	\$16.656	\$50.426	\$0.000	\$67.082
LERO01												
9/8/2015												
113			0.00	0.00	0.33	0.33	1.00	\$0.000	\$6.666	\$20.181	\$0.000	\$26.847
Total:			0.00	0.00	1.17	1.17	2.00	\$0.000	\$23.322	\$70.607	\$0.000	\$93.929

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Work Order Summary

Page 1 of 2

Work Center Skidtubes

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
ELLI01												
	3/17/2015											
108			0.00	0.00	1.18	1.18	1.00	\$0.000	\$25.682	\$61.238	\$0.000	\$86.920
9/3/2015												
108			0.00	0.00	0.50	0.50	1.00	\$0.000	\$10.885	\$25.955	\$0.000	\$36.840
108			0.00	0.00	0.42	0.42	1.00	\$0.000	\$9.072	\$21.631	\$0.000	\$30.703
LAUG01												
	9/25/2017											
108			0.00	0.00	1.01	1.01	1.00	\$0.000	\$26.166	\$50.783	\$0.000	\$76.949
PAQU03												
	3/3/2015											
108			0.00	0.00	0.82	0.82	1.00	\$0.000	\$17.790	\$42.421	\$0.000	\$60.211
	3/4/2015											
108			0.00	0.00	0.87	0.87	1.00	\$0.000	\$18.933	\$45.146	\$0.000	\$64.080
	11/26/2015											
108			0.00	0.00	0.58	0.58	1.00	\$0.000	\$12.698	\$33.196	\$0.000	\$45.894
Total:			0.00	0.00	5.37	5.37	7.00	\$0.000	\$121.227	\$280.370	\$0.000	\$401.596

Work Center SprayPaint

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
SHEL02												
	7/27/2017											
116			0.00	0.00	0.52	0.26	2.00	\$0.000	\$4.803	\$15.832	\$0.000	\$20.634
116			0.00	0.00	1.04	0.52	2.00	\$0.000	\$9.687	\$31.933	\$0.000	\$41.620
Total:			0.00	0.00	1.56	0.78	4.00	\$0.000	\$14.490	\$47.765	\$0.000	\$62.255

Work Order ID 129386

March-03-15 7:46:43 AM

129386

Page 1

Item ID: D119-646-114

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube RH with Wearplates & Wearpads, DART (Apical) Tri-Bag Float Compatible

Start Date: 2/05/15 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 2/06/15 Req'd Qty: 1.00 ***1***

Customer:

Reference: ECN 14-628

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
IIN-D119-646	C

105

0.00

105

Packaging

Memo

0.00

Packaging

PULL FROM STOCK
D119-646-114 X1
B: 92608

ADD DSI 9685-011
AS PER ECN 14-628

DP 15-2-27

108

0.00

108

Skidtubes

Memo

0.00

Skidtubes

REWORK PER RS1015
A/R

BEAD 15-03-17

DART Dart Aerospace Ltd. 1270 ABERDEEN ST. HAWKESBURY, ON, CANADA K6A 1K7				TC APPROVAL # 09-89 TEL: 1-613-632-5200	
P/N	D119-646-114	CHG	CHG003		
DESC.	Float Skidtube,RH	STC	SR02024SE		
LOT	B92608	STC			
MODEL	Agusta A119/AW119MKII	STC			
PATENTS: US #5735484 / CA #2222184 EUROPEAN No. # 0828655				MADE IN CANADA D2729-2	

*-D92608
-D87506
-D87130*

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 129386

March-03-15 7:46:43 AM

129386

Page 2

Item ID: D119-646-114

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Skidtube RH with Wearplates & Wearpads, DART (Apical) Tri-Bag Float Compatible

Stop ***NS2***Start Date: 2/05/15 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 2/06/15 Req'd Qty: 1.00 ***1***

Customer:

Reference: ECN 14-628

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
112	QC5- Inspect part completeness to step on W/O	0.00							
112									
QC	Memo	0.00							
Quality Control									
113		0.00							
113									
HandFinish	Memo	0.00							
Hand Finishing	RE-ALODINE/TOUCH UP POWDER COAT A/R								
114	QC3- Inspect Part Finish	0.00							
114									
QC	Memo	0.00							
Quality Control									

*1 of 12/09/12***116 Spray Paint**Primer 137855
Paint 137852**1***117 QC14**(1) all 12/09/12***DAS
15
9-89****DAS
41
9-89
JUL 27 2017**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other _____ _____ _____ _____
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Work Order ID 129386

March-03-15 7:46:43 AM

129386

Page 3

Item ID: D119-646-114

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skidtube RH with Wearplates & Wearpads, DART (Apical) Tri-Bag Float Compatible

Start Date: 2/05/15 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 2/06/15 Req'd Qty: 1.00 ***1***

Customer:

Reference: ECN 14-628

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
115	QC4- 100% Inspect kits for completeness	0.00							
115									
QC	Memo	0.00							
Quality Control									
125									
125									
Packaging	Memo	0.00							
Packaging	REPACKAGE USING N/B								
	PRINT NEW LABELS								
	DSI PAPER-WORK REQUIRED								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

Add to kit (in pkg) 3 x AN3C50 A B / 35950

DAS
6
9-89

OCT 25 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, February 05, 2015 12:52:40 PM

Page 1

Work Order ID: 129386

129386

Parent Item: D119-646-114

D119-646-114

Parent Item Name: Skidtube RH with Wearplates & Wearpads, DART (Apical) Tri-Bag Float Compatible

Start Date: 2/05/15

Required Date: 2/06/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC
12.11.05 raise to chg002 (ECN 12-675) DD verf:JLM IPP REV:C 13.03.20
raise to chg003 (ECN 13-534) DD verf:JLM IPP REV:D 14.11.25 chg004
(ECN 14-628) DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D119-646-114		Manufactured	No				Each	0.0000					
D119-646-114									**				
Skidtube RH with Wearplates & Wearpads, DART (Apical) Tri-Bag Float Compatible													
DSI 9685-011		Manufactured	No				Each	0.0000					
DSI 9685-011									**				
Crossbolt Spacer Installation													

1
92608 P 15-2-5

1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

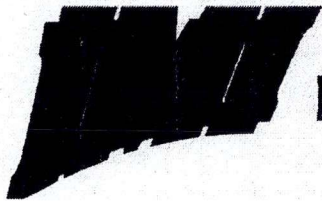
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

DART AEROSPACE LTD		Work Order: 129386
Description: Repair Scheme D119-646-241 Skid tubes FWD GHW holes do not align NCR 14-3771 For tubes in production and Returned tubes		
Drawing: D3887	Repair Scheme:	RS1015
Part No: D119-646-241	Page:	1 of 1
Batch No:	Qty:	1

Step	Location	Procedure	By	Date	Qty
1	Finishing	Remove FWD & AFT caps D2855-3. Clean all sikaflex off cap & identify per each tube caps was removed (P/N & B#)			
2	Skidtube	Drill out & remove FWD Cross bolt spacers D2579 in Detail C on Dwg D3887 <i>Most FWD x-bolt only</i>		15-3-4	1
3	Skidtube	Reposition location of holes as per Drawing but using <u>+/-0.005" tol</u> and per symmetrical in QSI 018		15-3-4	1
4	Skidtube	TACK ONLY Cross bolt spacers D2579 B <u>1A3997 x 1</u>	BE	15-03-17	1
5	QC	Location MUST be verified by QC Record Dims HERE	DAS 9 9-89	15-03-17	1
6	Skidtube	Weld as per QSI 004 A/R <u>1127865</u> Back Drill Grind welds flush & deburr	BE	15-03-17	1
7	QC	QC 10 & 5 Inspection ***TEST FIT GHW WHEELS*** Pass ☐	DAS 9 9-89	15-03-18	1
8	Purchasing	Send tube to be striped as per QSI004 PO# <u>29548</u>	CZ	15/08/21	1
9	Receiving	Receive & Inspect for Damage & Material certs	SD DAS	15/8/21	1
10	QC	QC 6 Inspect For Damage and reverify that certs match	38 9-89	15-09-01	1
11	Finishing	Touch up alodine as per QSI 005		15-9-8	1
12	Finishing	Re-Powder coat per QSI 005 <i>9 Prime and Paint as per dwg. D3887 Rev D</i> <i>989 Primer 137855 / Paint 137852</i>	DAS 41 9-89	JUL 27 2017	
13	Finishing	Re-assemble original caps back on tubes Sikaflex B _____ exp _____			
14	QC	QC 3 inspect			
15	QC	QC 5 inspect			
16	QC	QC21			

Rev	Date	Change Description	Prepared	Checked	Approved
B	14.10.21	New Issue	ED		



Manufacturing Inc.

2056 County Rd #4, L'Original, Ontario K0b 1K0

Phone 613-675-1208

Fax 613-675-1250

PACKING SLIP

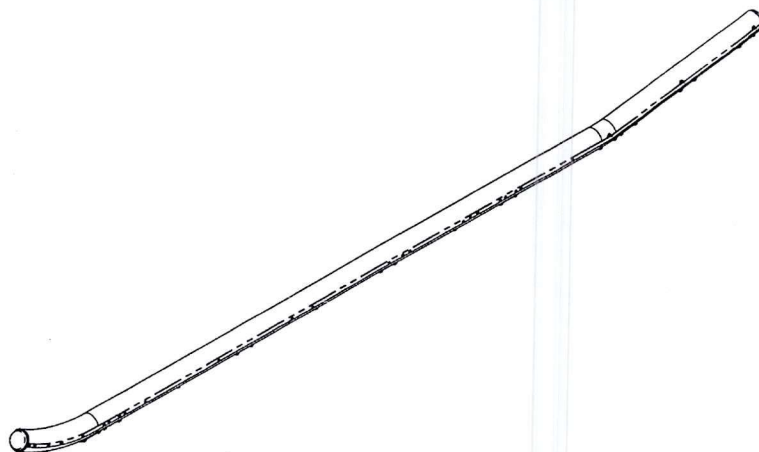
TO : DART AEROSPACE
1270 Aberdeen Street
Hawkesbury ON
K6A 1K7

Date : Aug 27/2015

SALESPERSON:		JOB #	PO NUMBER :	
		15-0354-22		
QTY ORDER	DESCRIPTION		QTY SHIP	LINE TOTAL
1	Decaper tuyaux aliminium		1 15/8/28 SD	

Client: (PRINT NAME) _____ (SIGNATURE) _____

THANK YOU FOR YOUR BUSINESS!



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-3 FLOAT WEB PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2 BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3905-041 = 35.4 lbs
D3905-043 = 42.8 lbs
D3905-045 = 48.0 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND: THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8932 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3905-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3905-041	FLOAT SKIDTUBE ASSY WITH WEARPAD
2		X		D3905-043	FLOAT SKIDTUBE ASSY WITH WEARPLATE
3			X	D3905-045	FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12			16	D3411-3	WASHER
13	16	16		D3492-045	PLUG ASSY
14	2	2	2	D3672-1	PHENOLIC WASHER
15	8	8	8	D3681-1	SPACER
16	8	8	1	D3847-1	WEARPAD
17	1	1	1	D3847-11	WEARPAD
18		1		D3847-043	FWD WEARPLATE ASSY
19		1		D3847-045	CENTER WEARPLATE ASSY
20		1		D3847-049	AFT WEARPLATE ASSY
21			1	D3849-045	AFT WEARPLATE ASSY
22			1	D3849-047	FWD WEARPLATE ASSY
23	1	1	1	D3885-3	FLOAT WEB
24	12	12	12	D3903-1	SPACER
25			16	D3904-1	WASHER
26	1	1		D3905-11	FLOAT SKIDTUBE
27			1	D3905-13	FLOAT SKIDTUBE
28	6	6	6	D5101-3	INSERT
29	6	6	6	D5101-5	INSERT
30	3	3	3	D5101-041	CROSSBOLT SPACER ASSY
41	42	42	10	ALS4-1032-130	INSERT
42	44	44	12	AN3C5A	BOLT
43			4	AN3C46A	BOLT
44			4	AN3C50A	BOLT
45	3	3	3	AN4C46A	BOLT
46	44	44	8	NAS1149C0332R	WASHER (OR AN960C10L)
47	12	12	12	NAS1149C0463R	WASHER (OR AN960C416)
48	6	6	6	NAS1149D0416J	WASHER
49			8	MS21043-3	NUT
50	3	3	3	MS21043-4	NUT
51	2	2	2	MS24694-C52	SCREW

UNDER REVIEW

15.04.30 URF15-560 AP

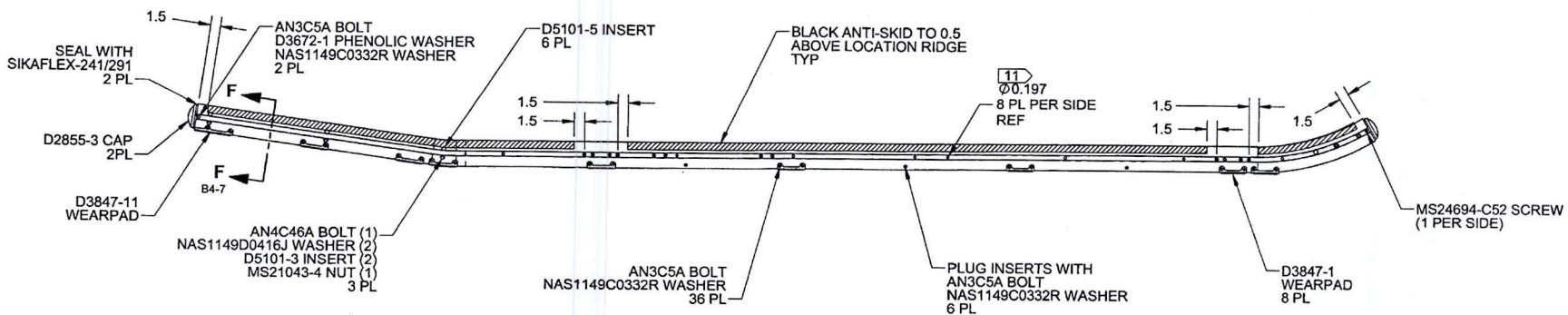
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2014 NOV 24

ECN 14-028

D	REVISED DIMENSIONS AND PROVIDED TOLERANCE TO SKIDTUBE OVERALL LENGTH PAGE 5-6 REVISED NOTE 2 AND NOTE 7 PAGE 1 (ZN B8- ZN A8-1) REVISED -041/-043/-045 DRAWING VIEWS, REVISED SECTION VIEW F-F (ZN B4-7), REVISED BOM REF. PARTS-298 AND PARTS-272	AK	14.08.08
C	(SHT 1 P/L ZN C2-2, C2-3, C2-4) ITEM 13, QTY 2 WAS 4, ITEM 42 AND 45, QTY 44 WAS 46, ADD ITEM 49, MS24694-C52 WAS AN3C5A, D3672-1 AND NAS1149C0332R (ZN C7-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.204 THRU (ZN A4-5, A4-6) ADD RELIEF INSTRUCTION, ADD ITEM 10, CROSS BOLT SPACER (ZN D4-1, C6-7, D8-7)	DB	13.02.21
B	REVISED PART LIST, ALS4-1032-130 WAS AELS-1032-130 (ZN A6-5, A5-6, C5-7, C3-7, A5-7); ADD DT8932 (ZN A8-1); D2855-3 WAS D2575 (ZN C8-2, C1-2, C6-3, C1-3, C8-4, C1-4); AN3C5A WAS AN3C4A (ZN C7-2, C1-2, C7-3, C1-3, C7-4, C1-4); D3849-047 WAS D3849-041 (ZN B3-4); ADD D3411-3 (ZN B3-4); ADD AN3C50A (ZN B3-4); Ø0.313 WAS Ø0.328 (B2-5, B2-6, C2-7, A8-7 & D7-8), REVISED NOTE 4 (ZN A8-7)	RF	09.06.30
D	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	ML	DART AEROSPACE USA, INC.	
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MFG. APPR.	DD	D3905	SHEET 1 OF 8
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DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
DATE	14.08.08		

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D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3905-11 SKIDTUBE)

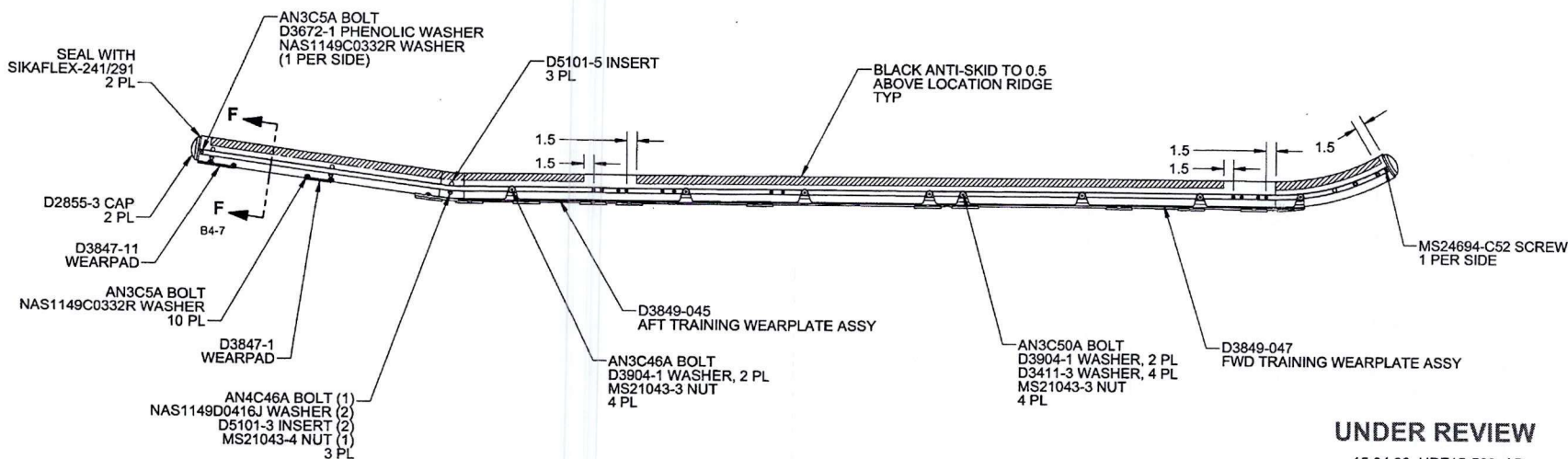
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D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3905-13 SKIDTUBE)

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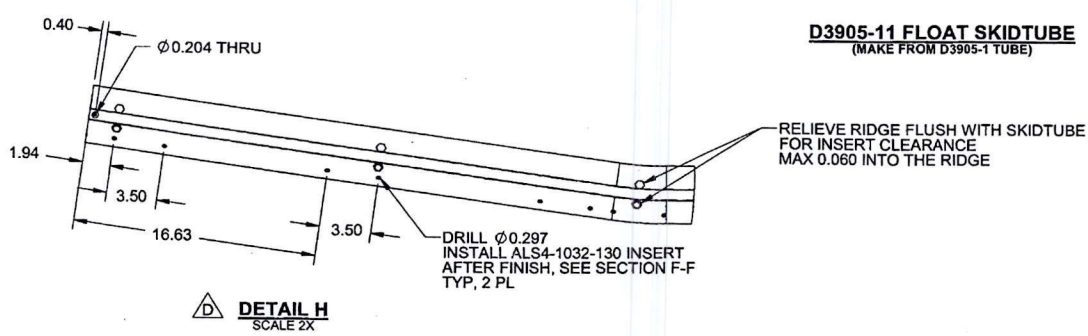
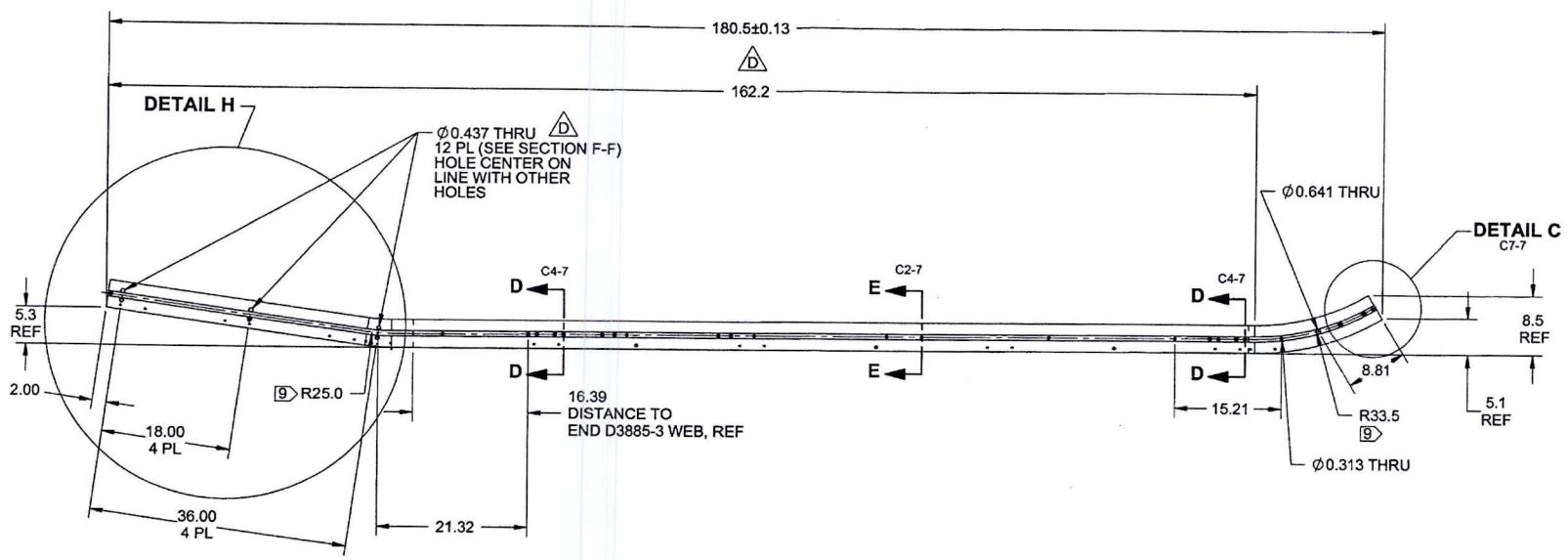
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8 7 6 5 4 3 2 1

D C B A



D3905-11 FLOAT SKIDTUBE
(MAKE FROM D3905-1 TUBE)

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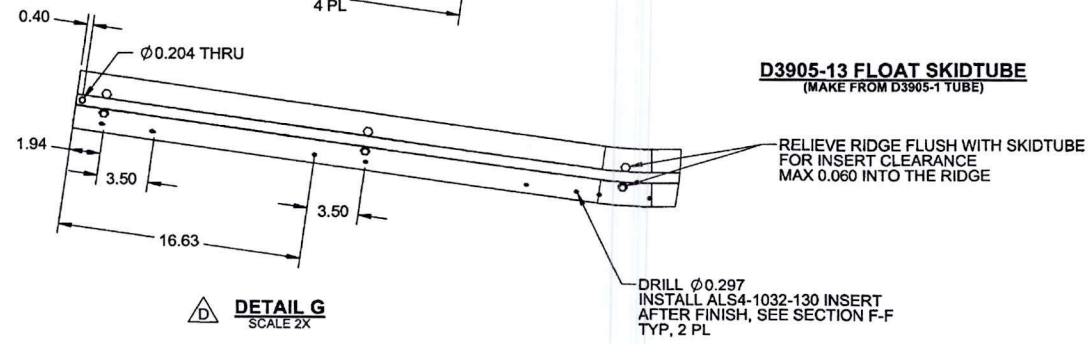
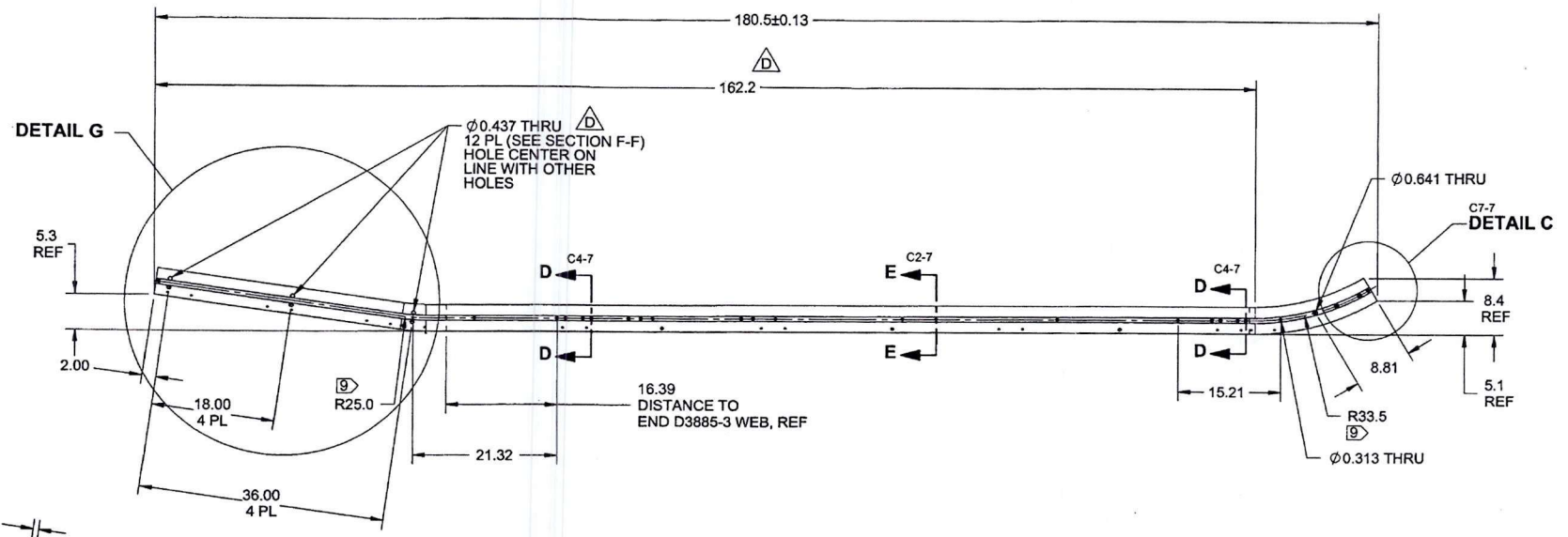
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8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D C B A

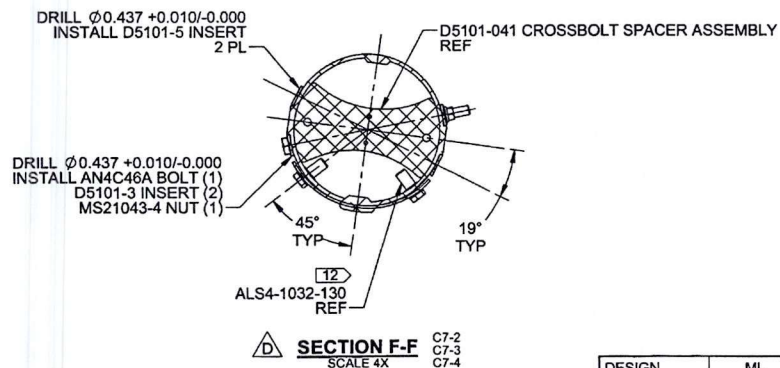
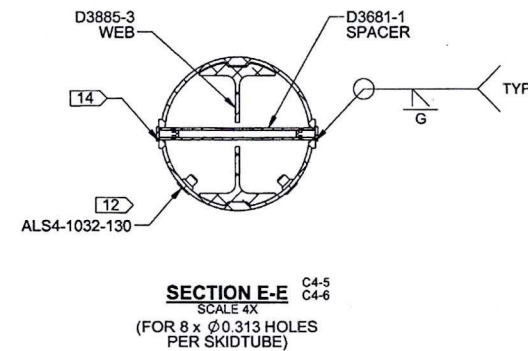
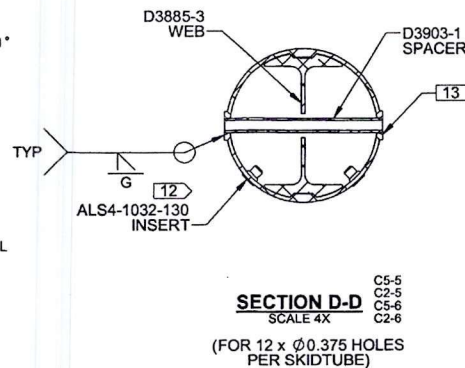
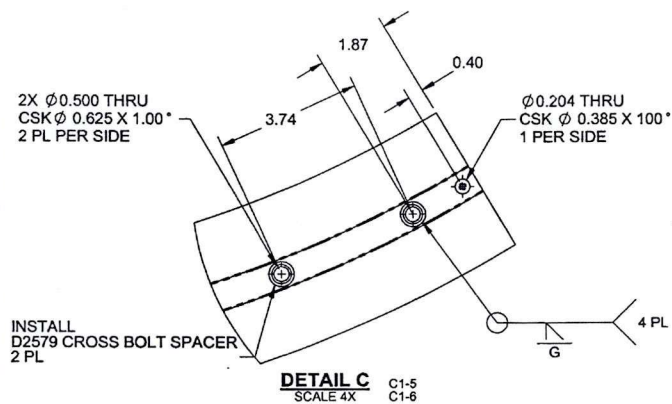


D3905-13 FLOAT SKIDTUBE
(MAKE FROM D3905-1 TUBE)

UNDER REVIEW
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NOTES:

- 13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø 0.375 HOLES ONLY:
- CHAMFER HOLES Ø 0.475 x 45° (BOTH SIDES)
 - INSERT D3903-1 SPACER
 - WELD INTO PLACE AND GRIND FLUSH
 - C'BORE TO 0.313 x 0.75 DEEP
 - DEBURR HOLES

- 14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø 0.313 HOLES ONLY:
- CHAMFER HOLES Ø 0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
 - INSERT D3681-1 SPACER
 - WELD INTO PLACE AND GRIND FLUSH
 - DEBURR HOLES

UNDER REVIEW

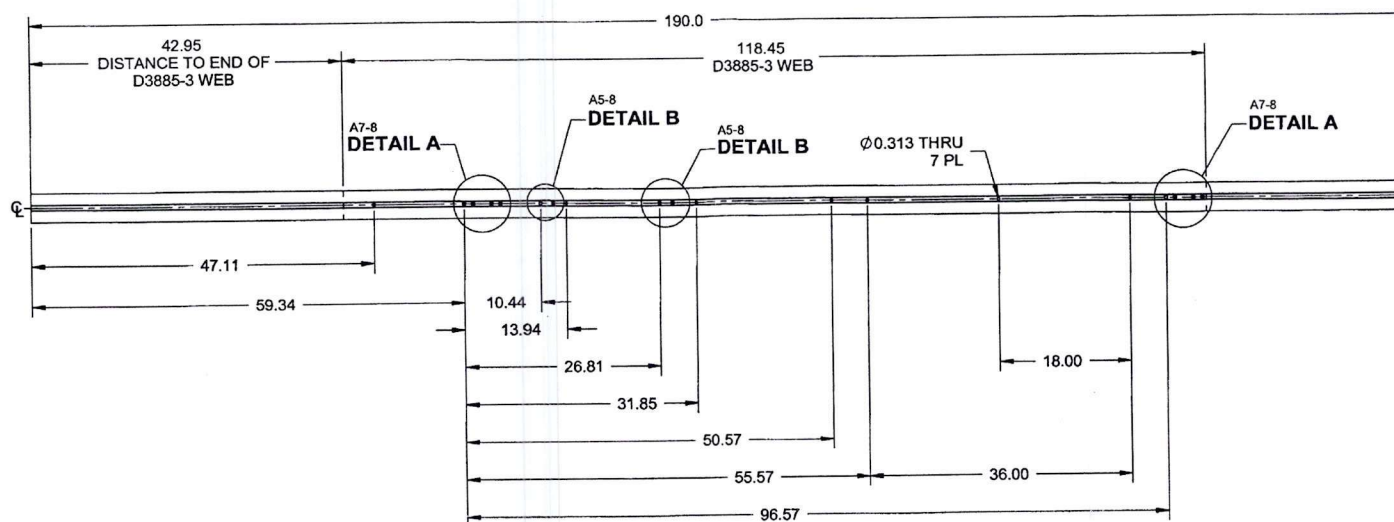
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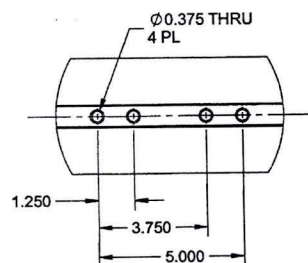
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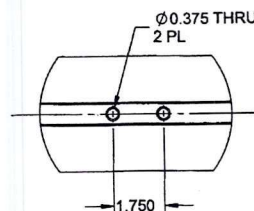
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D3905-1 TUBE
(MAKE FROM D2500-1-190 EXTRUSION)



DETAIL A
SCALE 4X
D6-8
D2-8



DETAIL B
SCALE 4X
D5-8
D4-8

UNDER REVIEW

15.04.30 URF15-560 AP

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2014 NOV 24

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DQA: _____ Date: _____

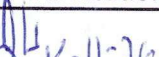
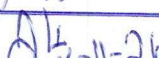


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design		15.11.25		1	● OPEN UP AFT FLAT HOLES TO Ø0.465 ● RELIEF OF RIDGE TO Ø0.190 ● INSTALL DS101-047 IN AFT BEND REGION ● WEARPLATES WITH TEXTURED COATING REPLACES GASKETS ● TOUCH UP ALUMINE &	A.P. 15.11.25	ACCEPTABLE	 15-11-26	 15-11-26	
Doc/Data								 15-11-26	 15-11-26	
Equip/Tooling										
Handling/Pre										
Material										
Operator										
Offset/Setup										
Process										
Supplier										
Training										
Transport										
Unapproved										

FINISH

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	<table style="width:100%;"> <tr> <td style="width:15%;"> Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ </td> <td style="width:15%;"> Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ </td> <td style="width:15%;"> Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ </td> <td style="width:15%;"> Engineering ☐ Quality ☐ Other ☐ </td> </tr> </table>	Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐
Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Operator ☐ Offset/Setup ☐ Process ☐ Supplier ☐ Training ☐ Transport ☐ Unapproved ☐	15.11.25		1	NO POWDER COAT, PRIME / PAINT. DO NOT APPLY PRIME PAINT IN SADDLE RECDENT PER ATTACHED	A.P. 15.11.25	ACCEPTABLE			

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence			
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